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HYBRID NANOPARTICLES WITH Ln_2O_3 CORE AND CARRYING BIOLOGICAL
LIGANDS, AND METHOD OF PREPARATION THEREOF

ABSTRACT

5 The invention concerns hybrid nanoparticles containing:

- a nanosphere, of mean diameter included in the range from 2 to 9 nm, of which at least 90 % by weight consists of Ln_2O_3 where Ln represents a rare earth, optionally doped with a rare earth or an actinide, or a mixture of rare earths, or a rare earth and actinide mixture, in which at least 50 % of the metal ions are rare earth ions,
- a coating around the nanosphere chiefly consisting of functionalized polysiloxane, having a mean thickness included in the range from 0.5 to 10 nm, preferably greater than 2 nm and no more than 10 nm, and
- at least one biological ligand grafted by covalent bonding to the polysiloxane coating

and their method of preparation.

(Figure to be published: Fig.2)